

## Sharing...the Journey

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Former U.S. President, Bill Clinton's 2007 book on "Giving: How each of us can change the world," provides a simple yet powerful message of hope, optimism, and change. Throughout the book, Clinton effectively captures a giving spirit through dozens of interesting, short stories. As an example, people like John Wood are quitting their jobs at Microsoft in order to build thousands of libraries as well as computer and language labs, while making available educational scholarships to children in such places as Nepal, Laos, India, Cambodia, and Vietnam in a program called Room to Read. To make this program work, there are thousands of other givers who donate books, software, money, and other resources for Room to Read libraries and educational programming. In addition to Wood, there is Woods, or I should say, Tiger Woods (the legendary golfer), who founded the Woods Center where volunteers offer math, science, and technology mentoring to youth of Southern California. Of course, Clinton also highlights AmeriCorps; an organization he was instrumental in creating back in 1993 when president. As he notes, AmeriCorps teachers travel to places such as South Africa, inner city Los Angeles, and hurricane damaged New Orleans to give their time, talents, and educational services. He also documents global organizations such as Vital Voices which is dedicated to building future women leaders around the world. As an example, Vital Voices provides leadership and business training, conferences on women's rights, legal services, and various other educational supports to nurture the hopes, dreams, and entrepreneurial spirit of women in Afghanistan as well as those in other parts of the world.

Reading pages of the book is certain to turn any reader into a giver. President Clinton's awe-inspiring compilation of riveting stories draws the reader to visions of how giving something, however seemingly small or inconsequential at the time, can make a huge difference. People around the world are contributing to efforts to diminish world pollution, discover cures for prostate cancer and AIDS, bring attention to the need for global peace, and provide support to victims of natural disasters and emergencies such as those devastated by the major tsunami that hit South and Southeast Asia on Sunday December 26, 2004 as well as those caught in Hurricane Katrina just 8 months later. Included in this book are stories about those giving some aspect of their lives for just such types of issues and causes.

Each of us has something to give—time before or after work, physical labor and sweat, innovative ideas and other types of mental effort, money and tangible materials, and unique talents and skills—that can make a positive impact on the inhabitants of this planet. In parallel to acts of giving there typically is some sense of sharing—the sharing of stories, visions, kindness, wealth, sense of duty, resources, etc. Indeed, sharing is a

part of giving as much as giving is a part of sharing. Sharing is actually defined as an act of contributing or giving something. And sharing is what this chapter, and perhaps life, is all about. If giving creates hope for someone, then “sharing” potentially multiplies this process to potentially anyone. In effect, giving, while vital to sustain and enrich human life on this planet, is often uni-directional (i.e., from a giver to a receiver), whereas the fruits of sharing more often extend in myriad directions. Sharing may, in fact, represent a synergistic expression or culmination of giving wherein what is provided or shared is duplicated, reused, and extended to those one did not initially intend or imagine benefiting from the act. In effect, acts of sharing take place in a highly interactive dynamic. As noted, however, there certainly is significant overlap between acts of giving and sharing.

Instead of trying to bring to life all acts of sharing, in this chapter, I focus primarily on sharing in educational settings using technology while briefly recounting aspects of my own personal journey in it during the past couple of decades. In the twentieth century, educators were often referred to as givers—those who give back to society without asking for much in return. Such individuals give their time to educating learners at all hours and on any day of the week. They offer their talents in particular subject matter areas as well as imaginative ideas and activities so that others can be motivated to achieve at a high level. Of course, such giving is a model for each succeeding generation of educators.

In the twenty-first century, however, opportunities for educators to share may actually eclipse those to give. In contrast to giving to a particular student, classroom, or school, sharing denotes an impact that is much more far-reaching, or, at least, potentially so. Now, with the emergence of the Internet, and, coincidentally, online sharing, one can impact anyone anywhere on this planet at any time of the day. In particular, sharing has increased in salience within teaching and learning environments due to unique possibilities afforded by online collaborative technologies. However, sharing was not always synonymous with teaching; especially when educational technology was involved. In fact, technology was a major reason for the teaching and learning silos that have pervaded for decades across educational sectors. Too many people blindly accept the bowling alley curricula of the past. With online technologies and the seemingly sudden emergence of the Web 2.0, we can now truly widen our perspectives through rich global and interdisciplinary collaboration and sharing!

As indicated, until recently, technology has been a key reason for the lack of sharing in education. What was on one person’s computer was solely his and should not be transmitted to others since that would only encourage cheating or lazy thinking. Key examples of this perspective included programmed instruction and computer-assisted instruction (CAI) in the 1960s and 1970s which were byproducts of the behaviorist movement made popular by the famous Harvard psychologist B. F. Skinner and his followers. At the time, technology was primarily used to reinforce learning. With such perspectives came the shaping of people in small steps toward a skill using what many opponents labeled “drill and kill instruction.” Shaping trumped sharing. Individualism

overrode collaboration. Result: sharing was virtually nonexistent in that first wave of educational computing technology.

As programmed instruction and its reinforcement style of learning “finally” faded away, many educators in the 1980s and early 1990s began to use technology to expand or broaden what learners could accomplish in basic skill areas such as math, science, reading, and writing as well as other subject matter areas and even less clearly defined learning pursuits. No longer were they limited to using technology to narrowly focus on discrete facts and dates and pounding them one nail at a time into the brains of awaiting learners. In effect, there was a huge and highly welcomed funeral procession for programmed instruction and CAI.

I witnessed part of this mass burial firsthand when conducting my master’s degree research in a number of schools in Wisconsin during the summer of 1987. We had students using dozens of convergent thinking software packages intended to enhance logical thinking, problem solving, hypothesis testing, classification skills, deductive reasoning, and inferencing as well as a similar set of divergent ones for fostering originality, brainstorming, spatial reasoning, recognizing patterns and relationships, and designing original works in poetry, art, drawings, animations, and music. This was a far cry from the canned drills of most technology deployed in schools at the time. Instead of limiting their educational opportunities to a set of predefined standards or objectives, this wave of software elevated or extended learning beyond what anyone could do alone. Such technology tools worked with and expanded upon human cognitive capabilities to enable highly interesting and novel learning outcomes. While the second wave of educational computing technology was not especially designed for sharing and collaboration, it was a means to extend human mental functioning. Result: technology was a cognitive tool to enhance human thinking and reasoning.

By using the second generation of educational technology to “enhance” learning, instead of hammering it in, educators started focusing on computers as cognitive tools that would augment mental functioning, thereby enabling learners to accomplish tasks that were not previously possible. My dissertation project on critical and creative thinking computer prompts embedded in WordPerfect in 1988 and 1989 was a prime example of augmenting learning with technology tools. Such learning enhancements were also found in supplemental resources such as practice exams, current topic readings, outlining and concept mapping tools for writing papers, rudimentary simulations, and other course study aids packaged (or shrink wrapped) on a floppy disk and latter on CD. Such CDs and disks were often glued or taped to the inside cover of the mighty textbook. Unfortunately, sharing typically was not embedded in such efforts, though one could share the disk. Additionally, most often technology was something that the teacher used to demonstrate, teach, show, and explain, not for students to manipulate, test ideas, and collaborate with others. A focus on manipulating and measuring individual learning remained entrenched across all phases of technology design, implementation, and evaluation.

When the Web emerged as a viable educational tool in the 1990s, educators began to creatively experiment with it. At that time, the focus changed from using technology to enhance learning, to using technology to “extend” what you do. This was a third generation of educational computer technology. As an example, at Indiana University, from 1996 to 2000, we used third generation tools such as Web conferencing to organize cross class collaborations between preservice teachers in Indiana and Finland, the UK, Peru, Korea, South Carolina, and Texas. They discussed case problems seen in schools and suggested solutions to each other based on their course readings. With such projects, class discussions could take place on the Web late at night, long after the course lecture was delivered and even after the instructors and their assistants had gone to bed. Ideas were not only shared internationally, they were saved online for the next class of students to read, reflect upon, and use.

Activities which extended learning environments also took place in K-12 and corporate education. In K-12 classrooms, for instance, projects and initiatives such as Key pals, GLOBE, the Journey North, and Kids as Global Scientists pushed learning well beyond traditional walled classrooms so that children could share their papers or scientific findings with peers in other schools, geographic regions, or countries. They might even have a live videoconference between two or more schools to share their curriculum projects and ideas. Such videoconferencing technology could also be employed for engaging and educationally beneficial cultural activities and outreach programming to youth in rural schools as seen in the International Studies in Schools (ISIS) program in my own university. For those outside Indiana, the Global Nomads Groups also employs videoconferencing to foster global awareness and appreciation of cultural differences and similarities by youth in the United States and around the world.

In corporate training, this third generation of tools enabled learners to work in teams with others in their organization located in different parts of the world using asynchronous discussion forums, Web conferencing, and online chats. Such global worker training activities build corporate efficiencies and expand productivity in ways never previously imagined.

As these brief examples illustrate, it was during the 1990s that educational activities were blossoming in seismic proportions beyond the four walls of the classroom. Result: ideas related to using technology to share began to crystallize. However, sharing was primarily limited to sharing papers across locations, sharing opinions in discussion forums, and sharing ideas on email.

While perhaps impressive, all these activities amounted to nothing more than light touch sharing by today’s Web 2.0 standards where user sharing, contributing, and participation are the norm. Just where such efforts will lead remains somewhat of a mystery since most educators today have simply walked through an initial passageway leading to a rich labyrinth of sharing opportunities. Many remain hesitant to wander further inside the possibilities of the Web 2.0; afraid to upset any colleagues, students, administrators, supervisors, or other stakeholders. As a result, sharing, for the most part, continues to be incidental to the course or learning experience goals and objectives; not the prime

motivator for teaching or training with technology. Many educators operating from this perspective fully admit that sharing educational resources, materials, and ideas has wonderful side-effects (e.g., gaining new colleagues, increased global awareness, automatic course updates, etc.); however, their main focus is on enhancing or extending the learning of those enrolled in their classes, not those in the classes of someone else or those who cannot currently attend a class for whatever reason.

Using technology to enhance and extend teaching and training environments was relatively painless. The next phase of educational technology, which sprouted wings in the late 1990s, and is still evolving, relates to using technology to transform the curriculum. While transforming education with technology has not been as widely adopted as some perceive, an avalanche of change is underway. Now with fourth generation educational computing technology, such as the Web 2.0, educational courses are being entirely rethought and revamped to take advantage of authentic learning and real world audiences for collaboration and interaction. For example, there are online corporate reports for business classes to analyze and discuss, Web-based surveys and polls for research courses to access and perhaps verify, digital movies produced by students and shared in YouTube for cultural anthropology courses, Google maps embedded in architecture or urban studies courses, freely available podcasts of Spanish radio for language courses, and live language lessons in Skype. Students can record, communicate, and debate real problems or cases that one or more of them has encountered instead of debating canned ones from textbook publishers. And, equally remarkable, the answers to those problems might come from someone that they will never physically meet. Result: sharing in this fourth phase of technology integration is much more flavorful and multimedia rich; undoubtedly, it will soon be widely accepted as standard educational practice.

Despite hundreds, if not thousands, of such transformational teaching examples, there are myriad bumps in this road. For instance, during the late 1990s, Murray Goldberg, former computer science professor from the University of British Columbia, built a high profile user community around his extremely popular course management system, WebCT. Though he did not anticipate it, he experienced a fast growing user base for his product through his extensive and insightful grassroots efforts. Allowing instructors to initially use his product for free did not hurt either. During this growth phase, Goldberg started dreaming of what it would be like if instructors using WebCT shared content, course resources, ideas, and even teaching styles or approaches. As president and founder of WebCT, he hoped that instructors using WebCT (and similar course management systems) could browse through the shared online contents and write to each other for permission to use them. And while there were 150,000 courses in WebCT format at the time and 50 emails a day from an active and thoughtful usergroup, only two people were willing to put their courses up on display for others to view; a mere 2 courses out of some 150,000. This certainly was not the exciting sharing culture he and other online learning pioneers had envisioned. What went wrong?

Well, there were two gigantic barriers to sharing online contents—ownership and copyright. Some worried about who actually owned the materials and whether they

would benefit if they shared such contents. Others were nervous that corporate lawyers at publishing houses would see the course resources that they were using without proper copyright clearance and engage in some type of legal action. Still others noted concerns about the piracy of their materials.

As these red flags were raised, Goldberg and many others hit a wall on sharing. They grasped the new possibilities for online communities of instructors but lacked the process for this to actually happen. Instructors wanted to share, but they simply could not due to many internal as well as external fears and concerns. Part of the problem was the newness of online learning. Part of the problem was the well known fact that the primary reward system for most instructors in higher education was research-based; it rarely, if ever, revolved around pedagogical inventions or the sharing of such inventions. And still another issue was the emphasis on individualism in most educational settings (i.e., individual teaching, individual learning, individual assessment, etc.), not collaboration. It would take more than a few years of familiarity with online learning environments and sharing content within it to overcome such fears.

As such barriers begin to crumble, numerous signposts of the coming tidal wave of change appear. One key historical marker occurred late in late 2006 when Time Magazine named “You” as the person of the year in recognition of the growing use of online technologies that empower people. As made evident in that issue, people can contribute to learning and comment on the learning of others; instead of passively receiving it. Contributing or giving to others is what both the Web 2.0 and Bill Clinton’s new book are all about. The Web 2.0 is about sharing. We share podcasts both of what we have found online as well as what we have produced. We share ideas in a wiki or contribute to existing wiki pages found in Wikipedia or WikiQuotes. We share our courses and educational resources with others.

We also subscribe to what others want to share with us. We subscribe to particular online news shows, postings from insightful bloggers, channels from YouTube video creators, and a plethora of other online content. What all these events means is that you, the people, control your educational experiences, instead of someone else controlling them for you as in the first few generations of educational technology; especially the initial one. To recap, briefly, then, generations of educational computing technology have marked the evolution of sharing among educators; we have journeyed from using technology to reinforce, enhance, or extend learning, to current visions and initiatives related to how to share that learning. As that occurs, learning environments are transformed.

Thanks to visionary people like Murray Goldberg and the emergence of Web 2.0 technologies, there is now a resounding buzz in education about sharing. During my travels the past few years to China, Spain, Malaysia, Ireland, the UK, Iceland, Singapore, and, of course, the UAE, people have been talking about sharing and the possibilities that it holds for education. This was not the case just a few years prior. For instance, when I gave more than a dozen talks on e-learning in four different cities in Australia in August of 2000 and mentioned sharing, a common refrain I heard was that “sharing may work

